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PREFACE

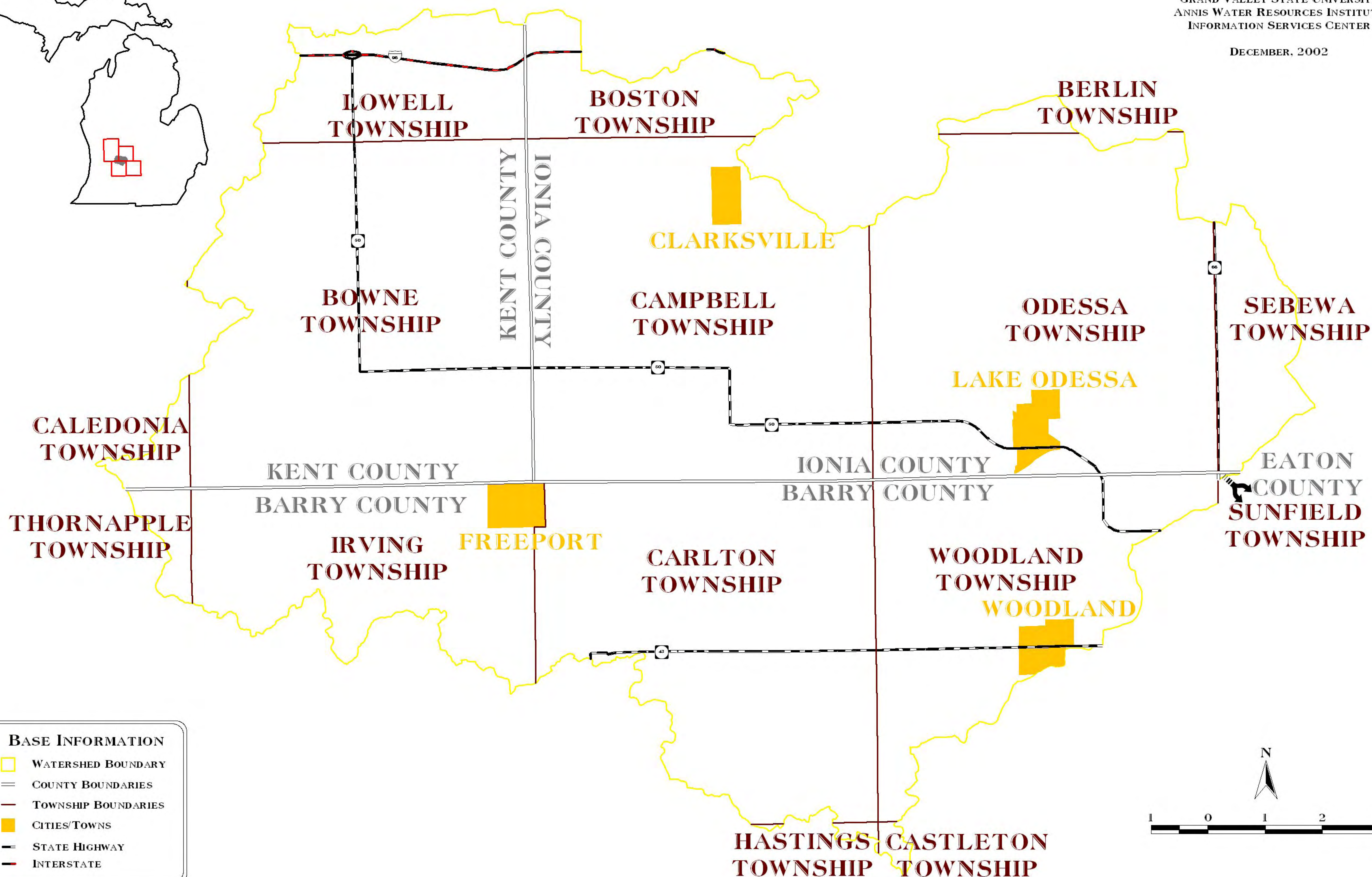
THE MANAGEMENT ATLAS FOR THE COLDWATER RIVER WATERSHED WAS CREATED AS PART OF THE COLDWATER RIVER MANAGEMENT PLAN PROJECT. IT OFFERS A VIEW OF THE WATERSHED'S LAND USES, POPULATION, SOIL TYPES AND BEHAVIORS, AQUATIC RESOURCES, AS WELL AS OTHER VALUABLE INFORMATION. USING THIS MANAGEMENT ATLAS IN CONJUNCTION WITH THE MANAGEMENT PLAN, WILL ALLOW THE WATERSHED'S COMMUNITIES TO MAKE MORE INFORMED DECISIONS CONCERNING THEIR WATER RESOURCES.

PROJECT MANAGER: ABIGAIL MATZKE

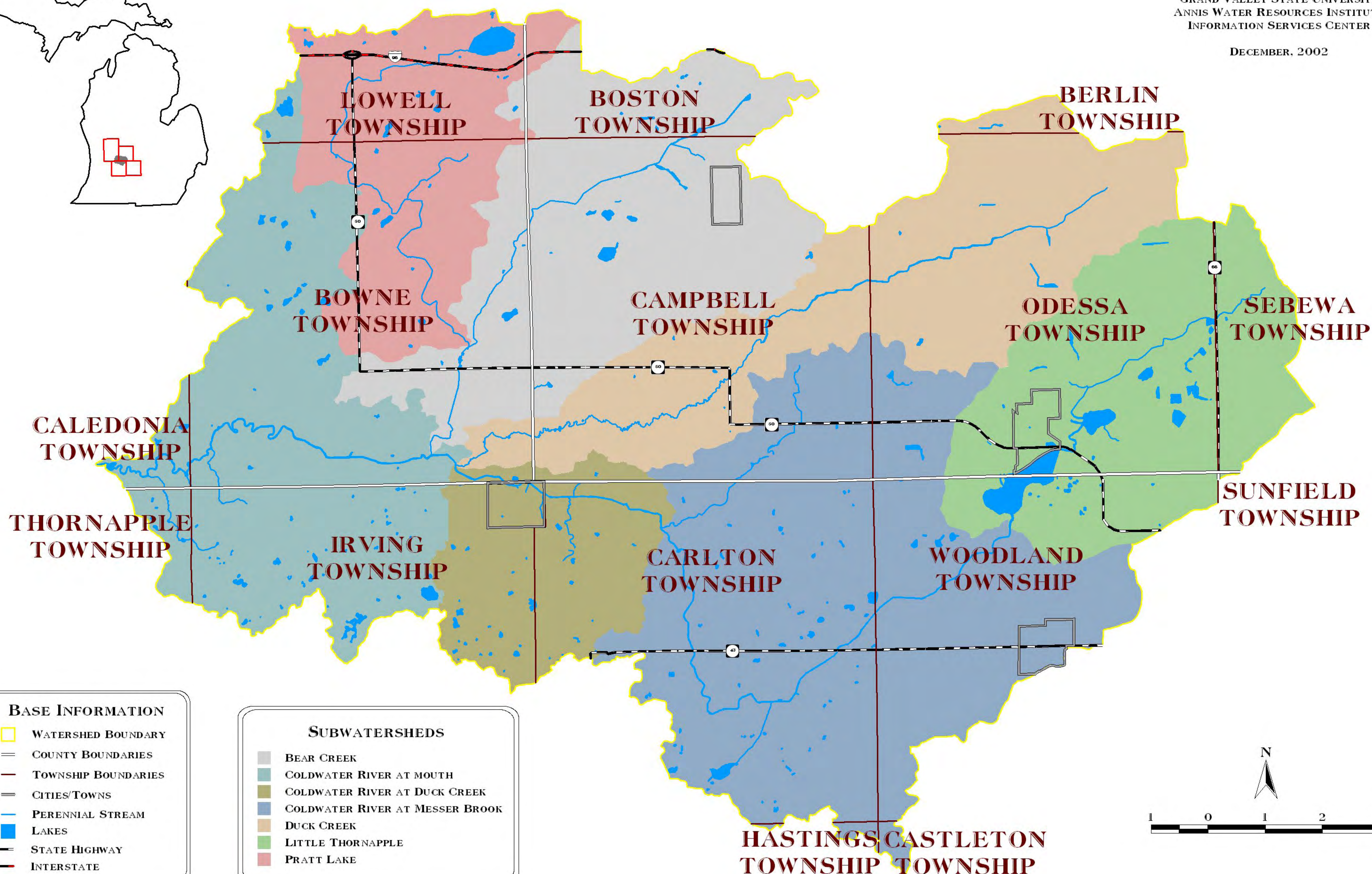
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GIS MAPPING: JEAN CONZELMANN AND BRIAN HANSON

HYDROLOGIC MODELER: MARK LUTTENTON

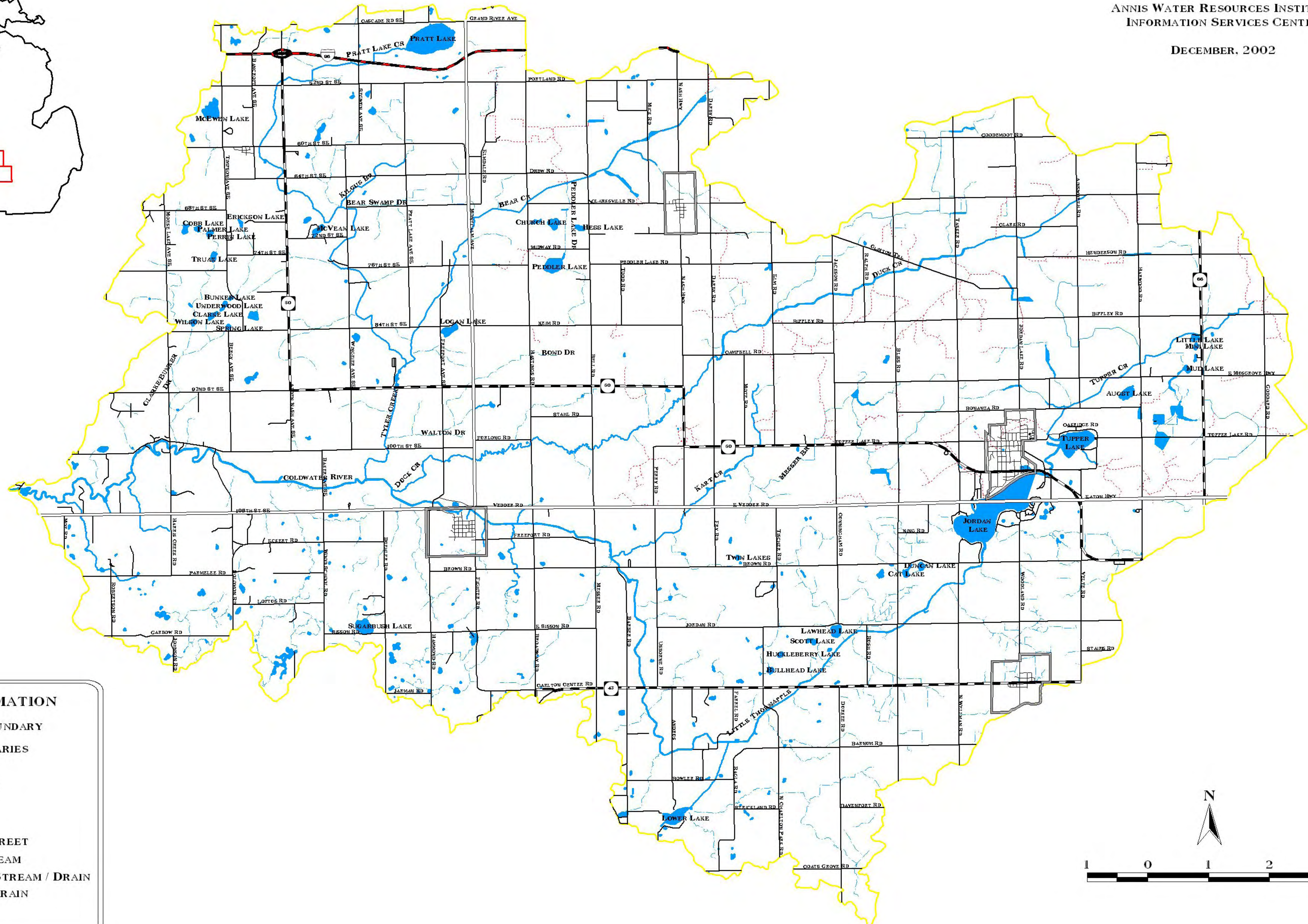


COLDWATER RIVER WATERSHED COUNTIES AND TOWNSHIPS



COLDWATER RIVER WATERSHED SUBWATERSHEDS

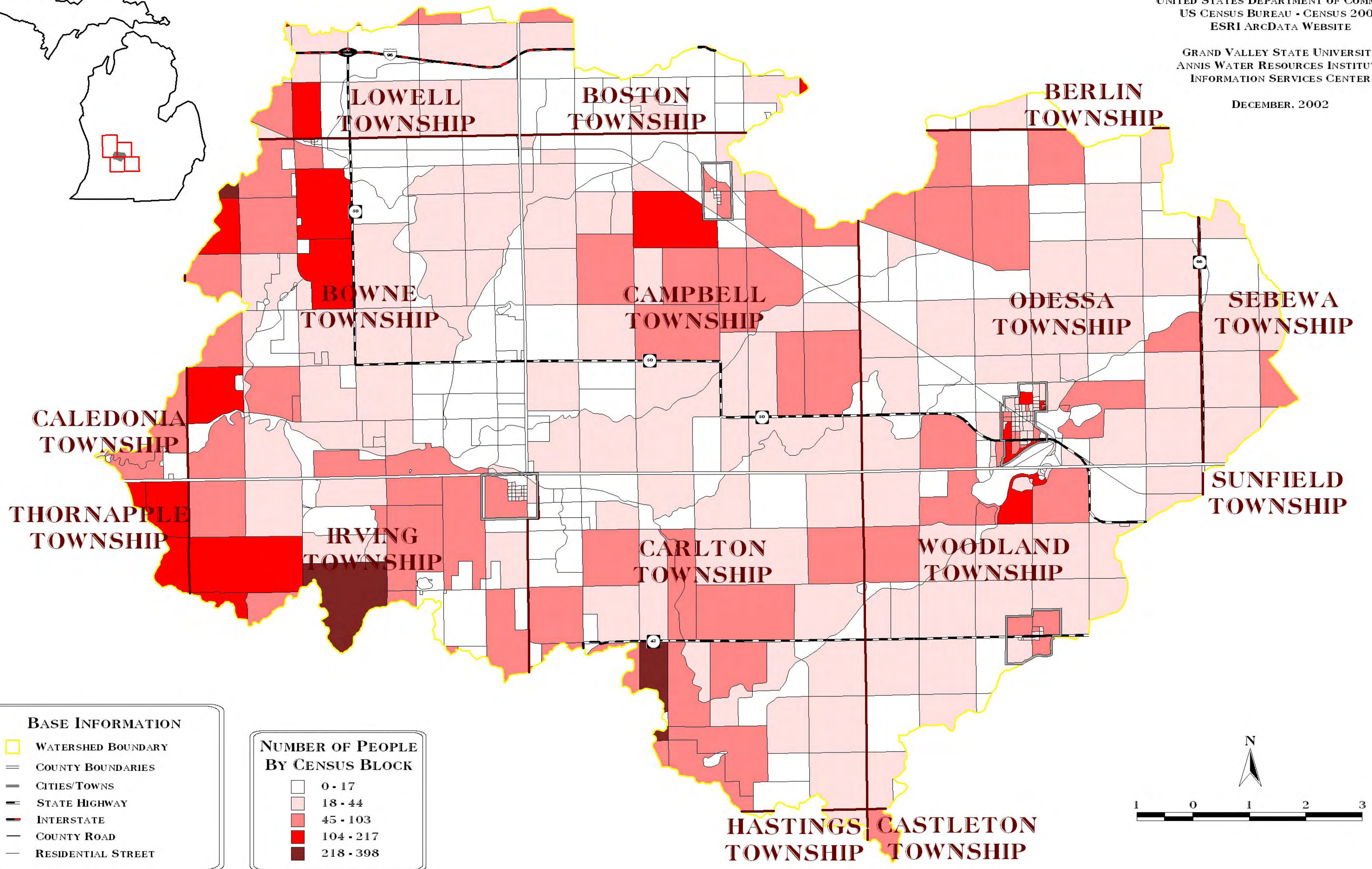
DECEMBER, 2002



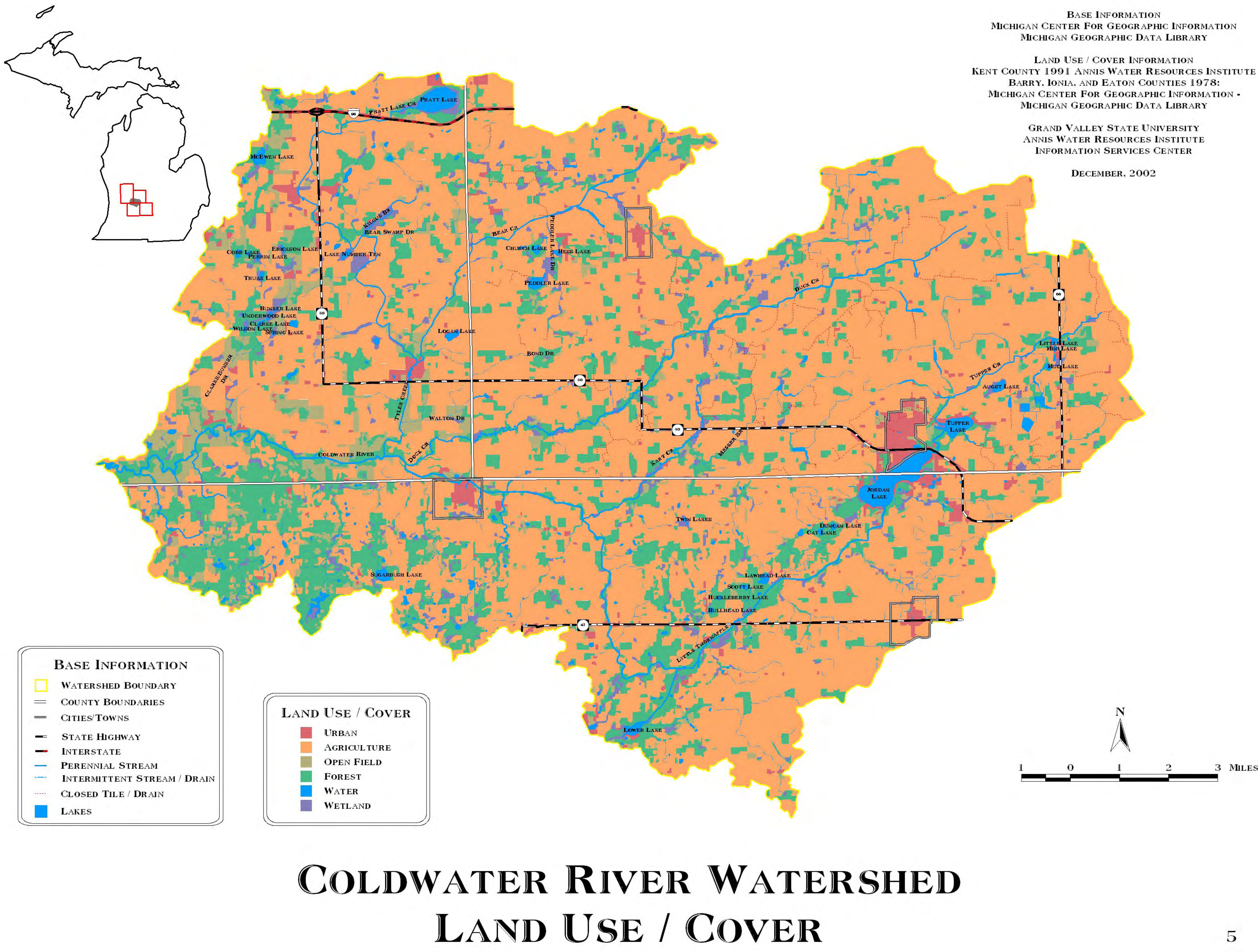
BASE INFORMATION

- WATERSHED BOUNDARY
- COUNTY BOUNDARIES
- CITIES/TOWNS
- STATE HIGHWAY
- INTERSTATE
- COUNTY ROAD
- RESIDENTIAL STREET
- PERENNIAL STREAM
- INTERMITTENT STREAM / DRAIN
- CLOSED TILE / DRAIN
- LAKES

COLDWATER RIVER WATERSHED BASE INFORMATION



COLDWATER RIVER WATERSHED POPULATION BY CENSUS BLOCK



KENT COUNTY

IONIA COUNTY

BARRY COUNTY

COLDWATER RIVER WATERSHED

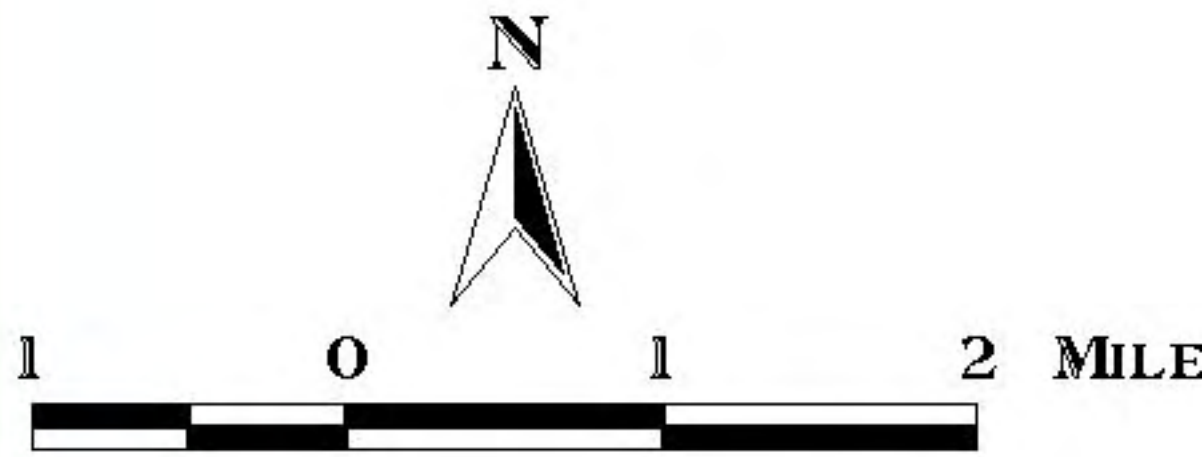
TOPOGRAPHIC RELIEF

Digital Elevation

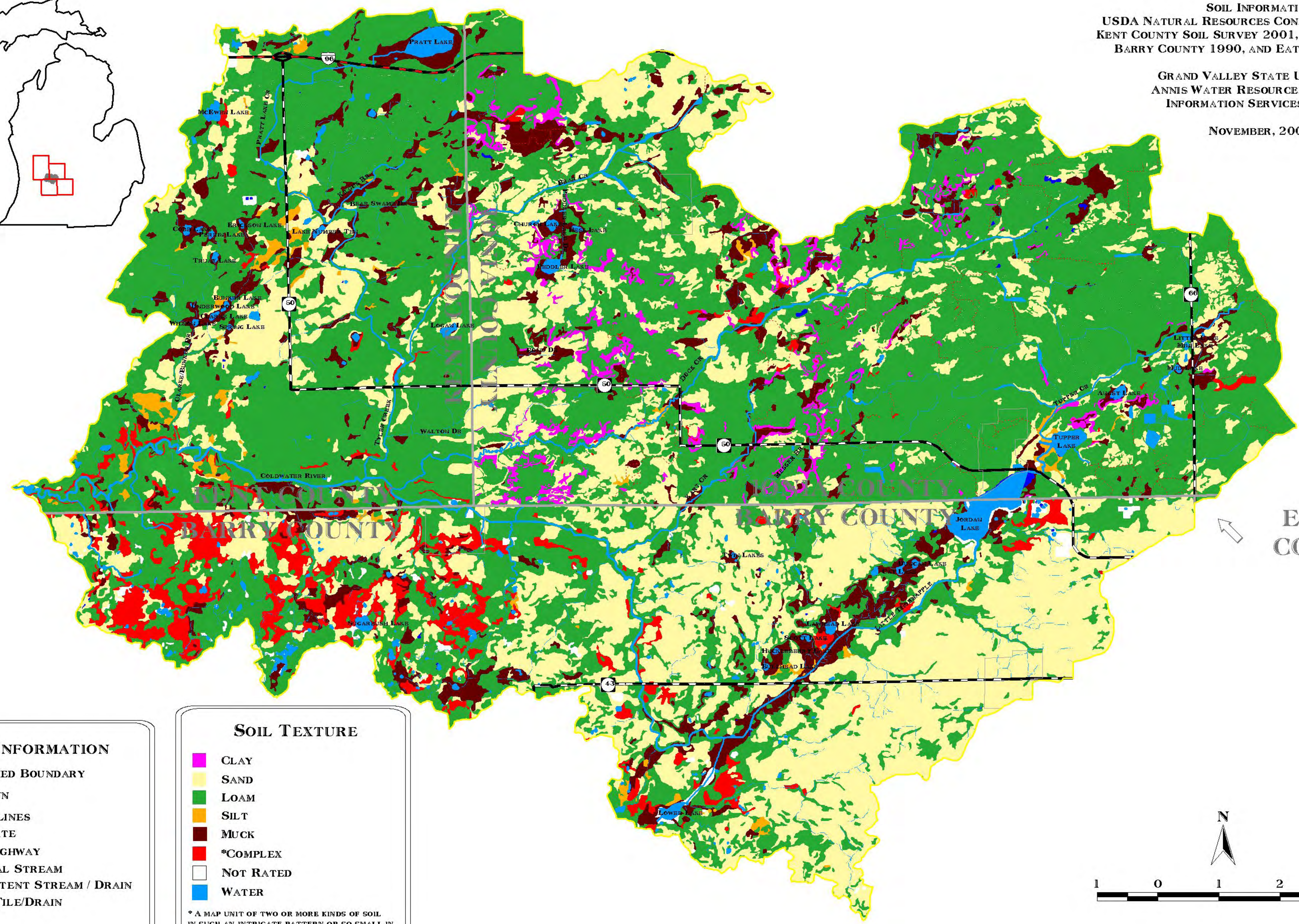
690 - 712	869 - 890
713 - 734	891 - 912
735 - 756	913 - 934
757 - 779	935 - 957
780 - 801	958 - 979
802 - 823	980 - 1001
824 - 845	1002 - 1024
846 - 868	

BASE INFORMATION

- PERENNIAL STREAM
- INTERMITTENT STREAM / DRAIN
- CLOSED TILE / DRAIN
- LAKES
- SECTION LINE
- COUNTY LINE



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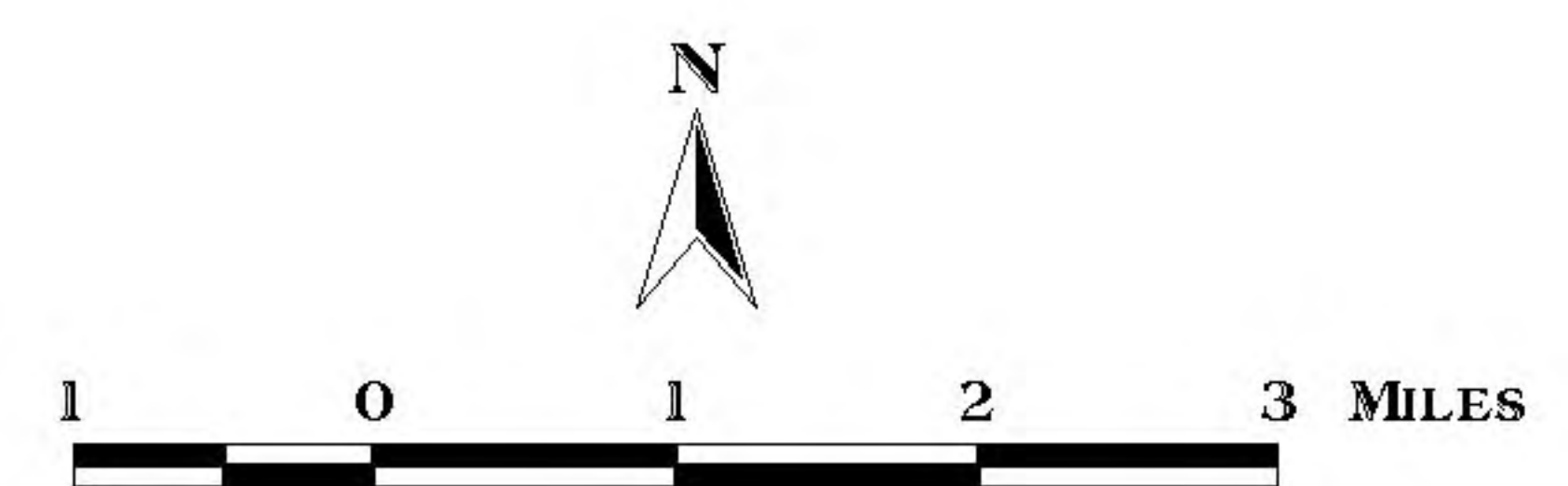
BASE INFORMATION

- WATERSHED BOUNDARY
- CITY/TOWN
- COUNTY LINES
- INTERSTATE
- STATE HIGHWAY
- PERENNIAL STREAM
- INTERMITTENT STREAM / DRAIN
- CLOSED TILE/DRAIN
- LAKES

SOIL TEXTURE

- CLAY
- SAND
- LOAM
- SILT
- MUCK
- *COMPLEX
- NOT RATED
- WATER

* A MAP UNIT OF TWO OR MORE KINDS OF SOIL IN SUCH AN INTRICATE PATTERN OR SO SMALL IN AREA THAT IT IS NOT PRACTICAL TO MAP THEM SEPARATELY.



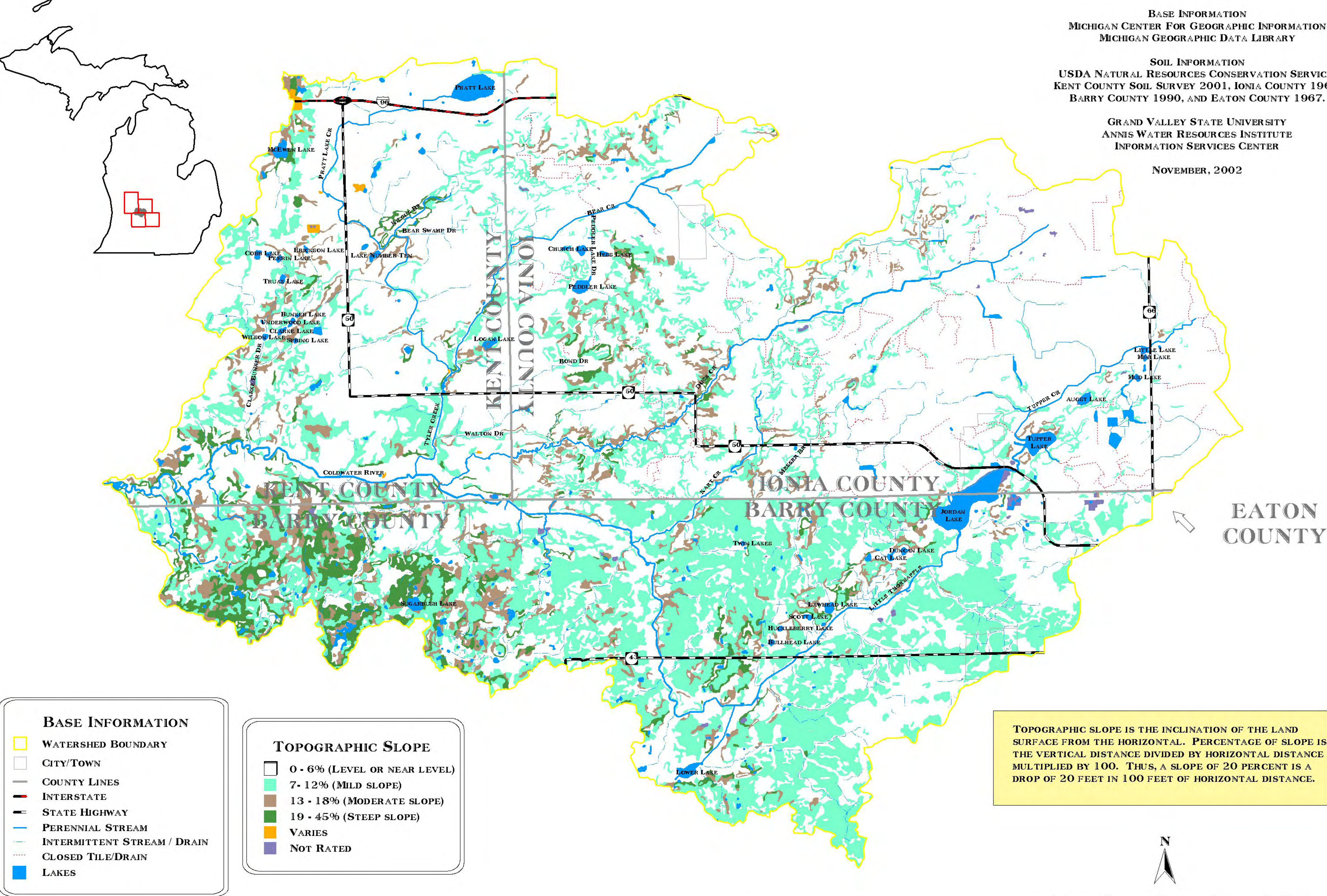
COLDWATER RIVER WATERSHED SOIL TEXTURE

BASE INFORMATION
MICHIGAN CENTER FOR GEOGRAPHIC INFORMATION
MICHIGAN GEOGRAPHIC DATA LIBRARY

SOIL INFORMATION
USDA NATURAL RESOURCES CONSERVATION SERVICE,
KENT COUNTY SOIL SURVEY 2001, IONIA COUNTY 1967,
BARRY COUNTY 1990, AND EATON COUNTY 1967.

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NOVEMBER, 2002



BASE INFORMATION

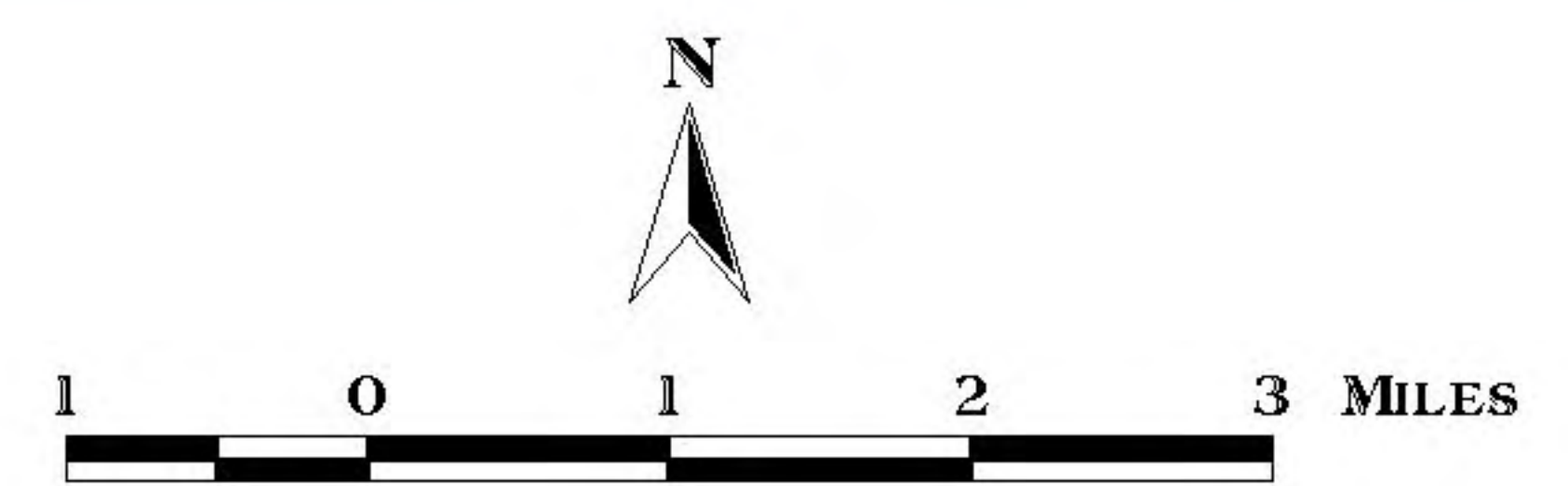
- WATERSHED BOUNDARY
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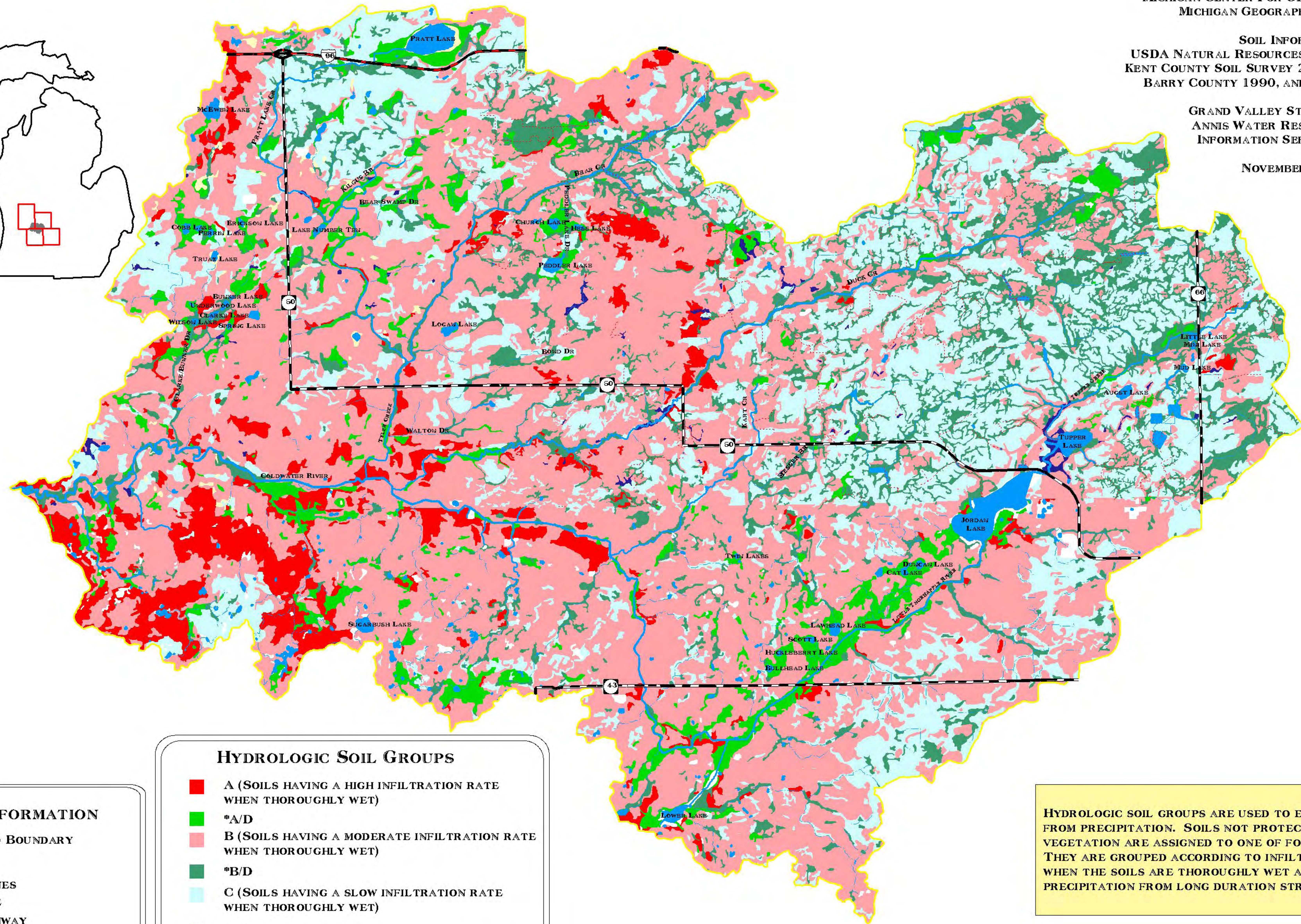
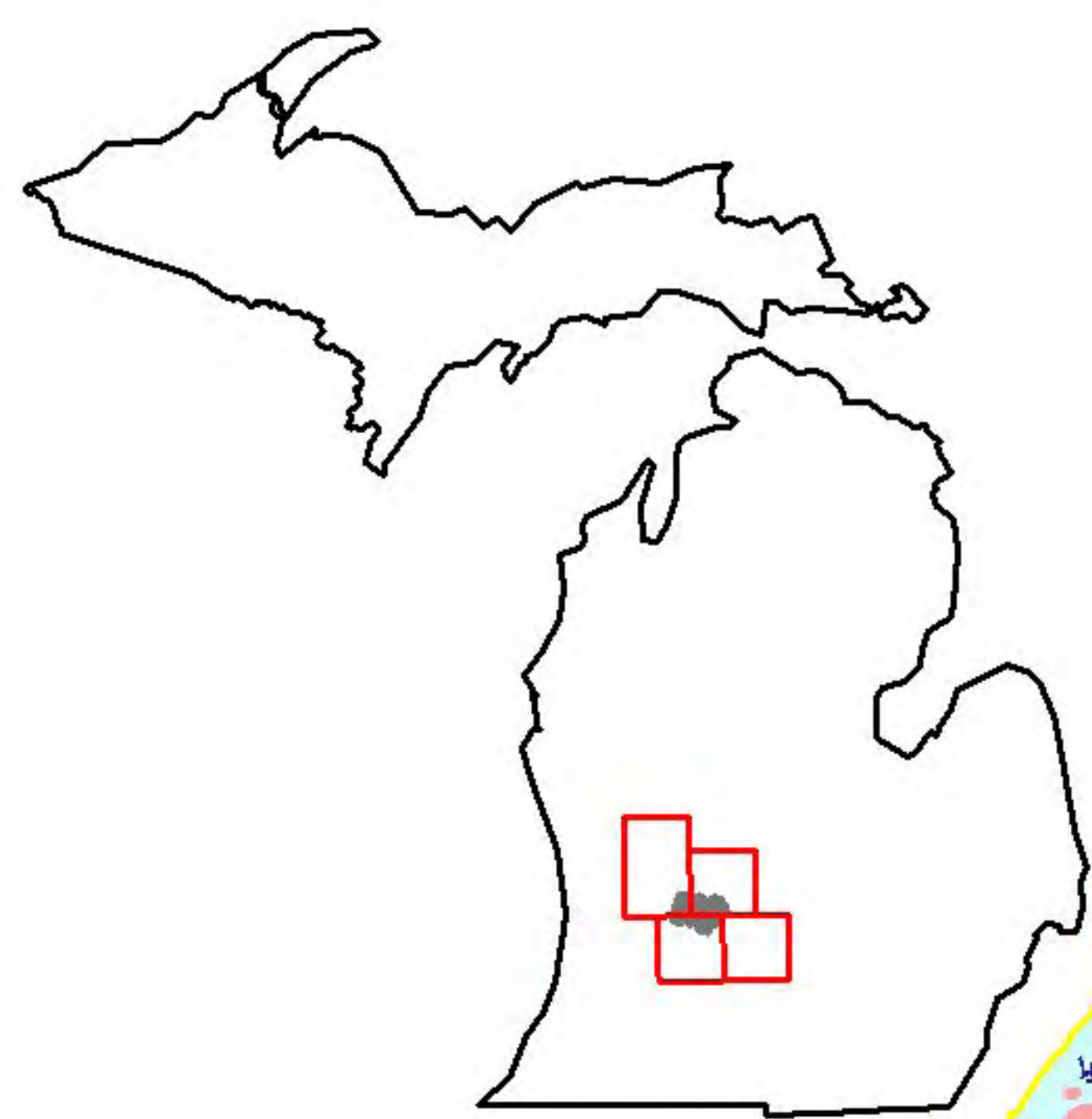
TOPOGRAPHIC SLOPE

- 0 - 6% (LEVEL OR NEAR LEVEL)
- 7 - 12% (MILD SLOPE)
- 13 - 18% (MODERATE SLOPE)
- 19 - 45% (STEEP SLOPE)
- VARIES
- NOT RATED

TOPOGRAPHIC SLOPE IS THE INCLINATION OF THE LAND SURFACE FROM THE HORIZONTAL. PERCENTAGE OF SLOPE IS THE VERTICAL DISTANCE DIVIDED BY HORIZONTAL DISTANCE MULTIPLIED BY 100. THUS, A SLOPE OF 20 PERCENT IS A DROP OF 20 FEET IN 100 FEET OF HORIZONTAL DISTANCE.

COLDWATER RIVER WATERSHED TOPOGRAPHIC SLOPE





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- LAKES

HYDROLOGIC SOIL GROUPS

- A (SOILS HAVING A HIGH INFILTRATION RATE WHEN THOROUGHLY WET)
- *A/D
- B (SOILS HAVING A MODERATE INFILTRATION RATE WHEN THOROUGHLY WET)
- *B/D
- C (SOILS HAVING A SLOW INFILTRATION RATE WHEN THOROUGHLY WET)
- *C/D
- D (SOILS HAVING A VERY SLOW INFILTRATION RATE WHEN THOROUGHLY WET)
- NOT RATED

*IN MULTIPLE GROUPINGS (A/D), THE FIRST LETTER REPRESENTS THE HYDROLOGIC GROUP AFTER IMPROVEMENTS HAVE BEEN MADE. THE SECOND LETTER REPRESENTS THE HYDROLOGIC GROUP WHEN THE SOIL IS IN ITS NATURAL STATE.

HYDROLOGIC SOIL GROUPS ARE USED TO ESTIMATE RUNOFF FROM PRECIPITATION. SOILS NOT PROTECTED BY VEGETATION ARE ASSIGNED TO ONE OF FOUR GROUPS. THEY ARE GROUPED ACCORDING TO INFILTRATION OF WATER WHEN THE SOILS ARE THOROUGHLY WET AND RECIEVE PRECIPITATION FROM LONG DURATION STROMS.



1 0 1 2 3 MILES

COLDWATER RIVER WATERSHED HYDROLOGIC SOIL GROUPS